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**Types of Natural Selection and Patterns of Evolution**

Ms. Ottolini, PreAP Biology

**Part A: Types of Natural Selection**

***Directions****: For each type of natural selection, choose a trait and create a scenario that would cause the identified type of selection on this trait. Your chosen trait and environmental scenario can be completely made up!*

**Example:** Disruptive selection

Trait: Fur color in mice (ranges from white to gray to black)

Environmental Factor Causing Natural Selection on this Trait: There are white and black rocks on the mountain slope on which the mice live. This allows the white and black mice to camouflage, but the gray mice are eaten by predators.

Frequency of Forms of this Trait in the Next Generation: In the next generation, there is a higher percentage of mice with white and black fur.

Explanation for why this is an Example of Disruptive Selection: In this example, both extreme forms of the trait (white and black fur) have a higher fitness than the average form of the trait (gray).

**1. Type of Selection: Stabilizing Selection**

Trait:

Environmental Factor Causing Natural Selection on this Trait:

Frequency of Forms of this Trait in the Next Generation:

Explanation for why this is an Example of Stabilizing Selection:

**2. Type of Selection: Directional Selection**

Trait:

Environmental Factor Causing Natural Selection on this Trait:

Frequency of Forms of this Trait in the Next Generation:

Explanation for why this is an Example of Directional Selection:

**3. Type of Selection: Disruptive Selection**

Trait:

Environmental Factor Causing Natural Selection on this Trait:

Frequency of Forms of this Trait in the Next Generation:

Explanation for why this is an Example of Disruptive Selection:

**Part B: Patterns of Evolution**

***Directions****: For each pattern of evolution, describe a scenario that involves this pattern of evolution in a species / group of species.*

**Example:** Coevolution

Description of Scenario: Crabs eat snails. Snails evolve thick shells to prevent crabs from getting in, as crabs evolve large claws to crack the snails’ shells.

Explanation for why this is an Example of Coevolution: Snails and crabs are evolving in response to one another.

**4. Pattern of Evolution: Divergent Evolution**

Description of Scenario:

Explanation for why this is an Example of Divergent Evolution:

**5. Pattern of Evolution: Convergent Evolution**

Description of Scenario:

Explanation for why this is an Example of Convergent Evolution:

**6. Pattern of Evolution: Coevolution**

Description of Scenario:

Explanation for why this is an Example of Coevolution: